

SUPPORT FOR THE AMENDMENT

This Amendment cancels Claims 17 and 23; and amends Claim 16; and adds new Claims 28-32. Support for the amendments is found in the specification and claims as originally filed. In particular, support for Claim 16 is found in canceled Claims 17 and 23, and in the specification at least at page 12, line 21 ("an alkali metal was less than 1 ppm"). Support for new Claim 28 is found in original Claim 12 and in the specification at page 10, line 22 to page 11, line 11 ([0034] of US 2004/0112274A1) and page 5, line 21 to page 6, line 12 ([0024] of US 2004/0112274A1). Support for new Claim 29 is found in original Claim 2. Support for new Claims 30-31 is found in the specification at least at page 4, lines 19-22. Support for new Claim 32 is found in the specification at least at page 4, line 24 to page 5, line 3. No new matter would be introduced by entry of these amendments.

Upon entry of these amendments, Claims 16, 18-22 and 24-32 will be pending in this application. Claims 16 and 28 are independent. Claims 24-26 are withdrawn from consideration pursuant to a Restriction Requirement.

REQUEST FOR RECONSIDERATION

Applicants respectfully request entry of the foregoing and reexamination and reconsideration of the application, as amended, in light of the remarks that follow.

Applicants thank the Examiner for the courtesies extended to their representative during the personal interview on January 25, 2007.

As discussed at the personal interview, conventional silica glass crucibles have a tendency to deform at the high temperatures required for pulling silicon single crystals from the crucibles. Specification at page 1, line 23.

To reduce the deformation, the present invention provides a reinforced silica substance (e.g., crucible) where a porous layer comprising crystalline quartz and in a ring

configuration serves to reinforce a silica glass substance comprising silica glass. The layer comprising crystalline quartz includes less than 1 ppm of an alkali metal. As a result, a crucible of the reinforced silica substance can be used to pull silicon single crystals without contaminating the silicon single crystals with the alkali metal.

Claims 16-18, 20-21, 23 and 27 are rejected under 35 U.S.C. §102(b) over U.S. Patent No. 6,136,092 ("Sato").

Claims 16-18, 20-23 and 27 are rejected under 35 U.S.C. §102(b) over JP 10-203893 ("Abe").

Claim 19 is rejected under 35 U.S.C. §103(a) over Sato or Abe and further in view of U.S. Patent No. 5,389,582 ("Loxley-582").

Claim 22 is rejected under 35 U.S.C. §103(a) over Sato in view of Abe.

Sato discloses quartz crucibles that can contain quartz glass that is transparent (i.e., having a relatively low bubble content) and quartz glass that is opaque (i.e., having a high content of minute bubbles). Sato at title; abstract; column 1, lines 35-39. Sato discloses the formation of a transparent silica glass inner layer having a very small bubble content. Sato at column 6, lines 1-15.

The Office Action at page 4, section 7, line 10, asserts that "[t]he bubble in the inner layer reads on applicant's porous".

On the contrary, a bubble does not make a material porous. A "***bubble***" can be defined as "a pocket formed in a solid by **trapped** air or gas, as during cooling". The American Heritage College Dictionary, 3d edition, page 181 (copy attached). In contrast, the term "***porous***" can be defined as "admitting the **passage** of gas or liquid **through** pores or interstices". Id., at 1065 (copy attached). The term "pores" can be defined as "a space in rock, soil, or unconsolidated sediment that is not occupied by mineral matter and allows the **passage** or absorption of fluids". Id., at 1064 (copy attached). Because a bubble does not

allow the passage of gas or liquid through a material, while a pore does, Sato's bubble does not read on the independent Claim 16 limitation "porous".

Because Sato fails to suggest the independent Claim 16 limitation "porous", the rejection over Sato should be withdrawn.

Abe discloses a quartz glass crucible that can include a crystallized glass layer. The Office Action at page 5, section 8, line 9, asserts "Abe et al discloses a discontinuous crystallized layer (Fig 5)". Fig. 5 of Abe discloses separated strips of crystallized glass layer 12 running vertically on quartz glass crucible 10.

However, Abe fails to suggest the independent Claim 16 limitation of "a *porous* layer comprising crystalline quartz and in a *ring configuration* on the silica glass substance". Thus, the rejection over Abe should be withdrawn.

Loxley-582 fails to remedy the deficiencies of Sato and Abe. The Office Action at page 6, section 10, lines 6-8, cites Loxley-582 for disclosing a particle size of silica powder.

Because the cited prior art fails to suggest the independent Claim 16 limitations of a "reinforced silica substance comprising a silica glass substance comprising silica glass; and a *porous layer comprising crystalline quartz and in a ring configuration* on the silica glass substance", the prior art rejections should be withdrawn.

New Claims 28-32 are also patentably distinguishable over the cited prior art. Sato and Abe fail to suggest the structural reinforcement feature implied by the independent Claim 28 limitations of "heating and sintering the silica glass powder layer at a temperature less than the crystallization temperature of the silica glass powder layer, ... wherein the silica glass powder layer is crystallized to reinforce the silica glass crucible by heating under the high temperature at the melting of the silicon raw material being charged into the crucible".

Claim 16 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement because Claim 16 recites "a silica glass substance

comprising amorphous silica" and assertedly there is no support in the original disclosure for amorphous silica. To obviate the rejection, Claim 16 is amended to recite --a silica glass substance comprising silica glass--.

Claim 16 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement because assertedly there is no support for the recitation "where the layer comprising crystalline quartz does not include a crystallization promoter". Applicants thank the Examiner for the indication at page 3, section 5, lines 10-11, that "there is ... support for a quartz layer which includes less than 1 ppm of a promoter". Claim 16 is amended to recite "where the layer comprising crystalline quartz ~~does not include a crystallization promoter~~ includes less than 1 ppm of an alkali metal". Because the specification as originally filed supports independent Claim 16, the rejection under 35 U.S.C. § 112, first paragraph, should be withdrawn.

Pursuant to M.P.E.P. §821.04, after independent Claim 16 is allowed, Applicants respectfully request examination and allowance of method Claims 24-26, which include all the limitations of independent Claim 16.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Applicants respectfully request favorable consideration and prompt allowance of the application.

Should the Examiner believe that anything further is necessary in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

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Attached:

American Heritage College Dictionary, 3d edition, pages 181, 1064, 1065

Customer Number

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CPU/rac

ruptured blood vessels
to plant tissue, often
3. An injury, esp. to
san, to crush, and <

e, heavyset man.
ruits. To spread news
ic. An abnormal sound
A rumor. b. A din; a
of *bruite*, to roar <
d VLat. **bragere*.
A member of a Native
division of the Teton
Dakota. [Fr. *brûlé*,
ne].

or occurring in winter.
euima (diēs), the short-
off. See *meqhu-u**.
OFR., perh. < Prov. <
bru/mous (brōō'mās)

cap and showy; mere-
England (< 17th-cent.
m'ma-gem n.
n. "Beau Brummell."
larized new men's fash-

ten late in the morning
st and an early lunch.

of Borneo on the South
Great Britain in 184
.765.
ppo. 1377-1446. Ital-
c during the Florentine

complexion or coloring
or eyes. — n. A person
ate at *brunette*. [Fr. <
orig. See *bher-2**.]
k or brown hair. — n. A
air. [Fr., fem. of *brunet*.

chiefly in reference to hair
to form *brunette* to refer
frequently used variant
and mixed groups. It is
ed into service as a neu-
c closely associated with
rarely applied to men.
pically described simply
nd. — ette.

t. and p. part. of bring-
the *Nibelungenlied* who
— 1600. Italian philoso-
of an infinite universe.
1030?—1101. German
Chartreuse in S France
order.

n and former duchy of
13th cent. 2. A city of
ver; founded 861. Pop.
Savannah. Pop. 16,433.
Jevland. Pop. 28,230.
contains chicken and rah-
ck, a county of S VA.)
or force, as of an attack.
Scand. orig.]

isting of bristles fastened
polishing, or painting.
light touch in passing;
a contact between a fixed
snub; a brushoff. — v.
1. a. To clean, polish, or
ith or as if with motions
f with motions of a brush.

brushed the matter aside
against. — intr. 1. To use
something so as to touch
1. To refresh one's mem-
be < OFr. *brosse*, brush-
er n. — *brush'y* adj.

nth of bushes or shrubs.
2. Cut or broken branch-
shwood < VLat. **bruscia*,
naple. — *brush'y* adj.
le or alarming encounter:
to hasten, rush, prob. <

relatively slow crackling
rking.

brushed (brūšt) *adj.* Having a nap produced by brushing.
brush-fire also *brush fire* (brūš'fir') *n.* 1. A fire in low-
growing scrubby trees and brush. 2. A relatively minor crisis.
brush-off also *brush-off* (brūš'ōf', -ōf') *n.* An abrupt dis-
missal or snub.

brush-wood (brūš'wōd') *n.* 1. Branches that have been cut
or broken off. 2. a. Dense undergrowth. b. An area covered by
such growth.

brush-work (brūš'wōrk') *n.* 1. Work done with a brush.
2. The manner in which a painter applies paint with a brush.

brusque also *brusk* (brūsk) *adj.* Abrupt and curt in manner or
speech; discourteously blunt. [Fr., lively, fierce < Ital. *brusco*,
coarse, rough < LLat. *brūscum*, perh. blend of Lat. *rūscus*,
hatcher's broom, and LLat. *brūcus*, heather; see *BRIAR* 1.]

— *brusque/ly* *adv.* — *brusque/ness* *n.*

brus-que-rle (brūs'kə-rē') *n.* Curtness or bluntness of man-
ner. [Fr. < *brusque*, brusque. See *BRUSQUE*.]

Brus-sels (brūs'alz). The cap. of Belgium, in the central part,
officially bilingual (Flemish and French). Met. area pop.
1,395,000.

Brussels carpet *n.* A machine-made carpet consisting of small,
colored woolen loops that form a heavy patterned pile.

Brussels griffon *n.* See *griffon* 1.

Brussels lace *n.* Net lace with an appliqué design, formerly
made by hand but now usu. made by machine.

Brussels sprouts *pl.n.* (used with a sing. or pl. v.) 1. A vege-
table (*Brassica oleracea* var. *gemmifera*) in the mustard fam-
ily, having cabbage-like buds. 2. The edible buds of this plant.

brut (brōōt) *adj.* Very dry. Used of champagne. [Fr. < OFr.,
rough < Lat. *brūtus*, heavy. See *g'wera-1**.]

bru-tal (brōō'tl) *adj.* 1. Extremely ruthless or cruel. 2. Crude
or, unfeeling in manner or speech. 3. Harsh; unrelenting.

4. Disagreeably precise or penetrating. — *bru-tal/ly* *adv.*

bru-tal-ism (brōō'tl-iz'm) *n.* A style of architecture
characterized by massive or monolithic forms typically unre-
lieved by exterior decoration. — *bru-tal-ist* *n.*

bru-tal-i-ty (brōō'tl-i-tē) *n.*, *pl. -ties*. 1. The state or quality
of being ruthless, cruel, harsh, or unrelenting. 2. A ruthless,
cruel, harsh, or unrelenting act.

bru-tal-ize (brōō'tl-iz') *tr.v.* -ized, -iz-ing, -iz-es. 1. To make
cruel, harsh, or unfeeling. 2. To treat cruelly or harshly.

— *bru-tal-i-za'tion* (-i-zā'shən) *n.*

brute (brōōt) *n.* 1. An animal; a beast. 2. A brutal, crude, or
insensitive person. — *adj.* 1. Of or relating to beasts; animal.

2. Characteristic of a brute, esp.: a. Entirely physical.
b. Lacking or showing a lack of reason or intelligence. c. Sav-
age; cruel: *brute coercion*. d. Unremittingly severe: *brute ne-*

cessity. 3. Coarse; brutish. [*< ME, nonhuman < OFr. brut <*
Lat. *brūtus*, stupid. See *g'wera-1**.] — *brut/ism* *n.*

brut-ish (brōō'tish) *adj.* 1. Of or characteristic of a brute.
2. Crude in feeling or manner. 3. Sensual; carnal. 4. Rough;
uncivilized. — *brut-ish/ly* *adv.* — *brut-ish-ness* *n.*

Brut-ti-um (brōō'tē-əm, brūt'-) *n.* An ancient region of S Italy
roughly occupying present-day Calabria.

Brutus (brōō'tas), Marcus Junius. 85?—42 B.C. Roman pol-
itician and general who conspired to assassinate Julius Caesar.

brux-ism (brūks'iz'm) *n.* The habitual, involuntary grinding
or clenching of the teeth, usu. during sleep, as from tension.

[< NLat. *brūxis*, a gnashing < Gk. *brūkein*, to gnash.]

Bry-an (brī'an). A city of E-central TX NW of Houston. Pop.
15,002.

Bryan, William Jennings. "the Great Commoner." 1860–
1925. Amer. lawyer and politician famous for his "Cross of
Gold" speech (1896).

Bry-ansk also *Bri-ansk* (brē-ānsk'). A city of W Russia SW of
Moscow; part of Lithuania until the 16th cent. Pop. 430,000.

Bry-ant (brī'ant), William Cullen. 1794–1878. Amer. poet,
critic, and editor known esp. for "Thanatopsis" (1817).

Bryce (bris), James. 1838–1922. British diplomat and histo-
rian who wrote *American Commonwealth* (1888).

Bryn-hild (brīn'hild') *n.* A Valkyrie who is revived from an
enchanted sleep by Sigurd.

bryo- *pref.* Moss: *bryology*. [NLat. < Gk. *bruon*, moss <
bruein, to swell, teem.]

bry-ol-o-gy (brī-ōl'ō-jē) *n.* The study of bryophytes. — *bry/-*
o-log'i-cal (-lōj'i-kal) *adj.*

bry-o-ny (brī-ō-nē) *n.*, *pl. -nies*. 1. Any of various Eurasian
vines of the genus *Bryonia*, having red or black berries and
tuberous roots formerly used as medicine. 2. The black bry-
ony. [Lat. *bryōnia* < Gk. *bruōnia* < *bruein*, to swell, teem.]

bry-o-phyte (brī-ō-fīt') *n.* A plant of the Bryophyta, a divi-
sion of photosynthetic, chiefly terrestrial nonvascular plants,
including the mosses. — *bry-o-phyt/ic* (-fīt'ik) *adj.*

bry-o-zo-an (brī-ō-zō'an) *n.* Any of various small aquatic ani-
mals of the phylum Bryozoa that reproduce by budding and
form colonies attached to stones or seaweed. [*< NLat. Bry-*

ozoa; phylum name: bryo- + Gk. *zōia*, pl. of *zōion*, animal;
see *zoon*.] — *bry-o-zo'an* *adj.*

Bryth-on (brīth'an, -ōn') *n.* 1. An ancient Celtic Briton of
Cornwall, Wales, or Cumbria. 2. One who speaks a Brittonic
language. [Welsh < Lat. *Brittonēs*, Britons. See *BRI-TON*.]

bry-thon-ic (brī-thōn'ik) *adj.* Of or relating to the Brythons

or their language or culture. — *n.* Var. of *Brittonic*.

B.S. abbr. 1. Bachelor of Science. 2. Balance sheet. 3. Bill of
sale. 4. *Obscene*. Bullshit.

BSA abbr. Boy Scouts of America.

B.Sc. abbr. Bachelor of Science.

B.S.Ed. abbr. Bachelor of Science in Education.

bsh. abbr. Bushel.

BSI abbr. British Standards Institution.

B-side (bē'sid') *n.* The reverse side of a phonograph record,
esp. a single. [From the B on the record's label.]

bsk. abbr. Basket.

Bt. abbr. Baronet.

B.T. abbr. Bachelor of Theology.

B.Th. abbr. Bachelor of Theology.

btry. abbr. Battery.

Btss. abbr. Baroness.

Btu abbr. British thermal unit.

bu. abbr. 1. Bureau. 2. Or *bu* Bushel.

bub (būb) *n.* Slang. Fellow. Used as a term of familiar address
for a man or boy. [Prob. short for *BROTHER*.]

Bu-bas-tis (byōō-bās'tis). An ancient city of NE Egypt.

bub-ble (būb'əl) *n.* 1. A thin, usu. spherical or hemispherical
film of liquid filled with air or gas. 2. A globular body of air
or gas formed within a liquid. 3. A pocket formed in a solid
by trapped air or gas, as during cooling. 4. a. The act or pro-
cess of forming bubbles. b. A sound made by or as if by the
forming and bursting of bubbles. 5. Something insubstantial,
groundless, or ephemeral, esp.: a. A fantastic or impracticable
idea or belief; an illusion. b. A speculative scheme that comes
to nothing. 6. Something light or effervescent. 7. A usu. trans-
parent glass or plastic dome. 8. A protective, often isolating
envelope or cover. — *v.* -bled, -bling, -bles. — *intr.* 1. To
form or give off bubbles. 2. To move or flow with a gurgling
sound. 3. To rise to or as if to the surface; emerge. 4. To
display irrepressible activity or emotion. — *tr.* To cause to
form bubbles. [*< ME bubelen*, to bubble.]

bubble and squeak *n.* Chiefly *British*. Cabbage and potatoes
fried together. [Limit. of the sounds made as it cooks.]

bubble bath *n.* 1. A perfumed preparation added to bath water
to make it foam. 2. A bath containing such a preparation.

bubble chamber *n.* An apparatus in which the movement and
collision of ionizing particles is seen as trails of gas bubbles
that form as the particles move through a superheated liquid.

bubble gum *n.* Chewing gum that can be blown into bubbles.

bubble memory *n.* *Comp. Sci.* A memory in which binary dig-
its are represented by the alignment of magnetic bubbles.

bub-bler (būb'lar) *n.* *Northern U.S.* A drinking fountain.

bubble top *n.* A transparent, often bulletproof enclosure form-
ing the top of an automobile.

bub-bly (būb'lē) *adj.* 1. Full of or producing bubbles. 2. Re-
sembling bubbles. 3. Full of high spirits; effervescent. — *n.*,
pl. -billes. *Informal*. Champagne.

Bu-ber (būō'bar), Martin. 1878–1965. Austrian-born Judaic
scholar and philosopher who wrote *I and Thou* (1923).

bu-bo (būō'bō, byōō'-) *n.*, *pl. -boes*. An inflamed tender
swelling of a lymph node, esp. of the armpit or groin, that is
characteristic of certain infections such as plague. [*ME <*

Lat. *bubō*, *bubōn* < Gk. *boubōn*.]

bu-bon-ic plague (būō-bōn'ik, byōō-) *n.* A contagious, often
fatal epidemic disease caused by the bacterium *Yersinia pestis*,
transmitted from person to person or by the bite of fleas from
an infected host, esp. a rat, and characterized by chills, fever,
vomiting, diarrhea, and the formation of buboes.

bu-bon-o-cele (būō-bōn'ō-sēl', byōō-) *n.* A partial hernia of
the groin, characterized by swelling in the groin area. [*Gk.*
boubōnokēlē; *boubōn*, groin + *kēlē*, rupture.]

Bu-ca-ra-man-ga (būō'ka-rā-māng'gā, -kā-rā-māng'gā). A
city of N-central Colombia in the Cordillera Oriental of the
Andes; founded 1622. Pop. 342,169.

buc-cal (būk'al) *adj.* Of or relating to the cheeks or the mouth
cavity. [*< Lat. bucca*, cheek.]

buc-ca-neer (būk'ā-nēr') *n.* 1. A pirate, esp. one who preyed
on Spanish shipping in the West Indies during the 17th cen-
tury. 2. A ruthless speculator or adventurer. [*Fr. boucanier <*

boucaner, to cure meat < *boucan*, barbecue frame, poss. of
Arakawan orig. or < Tupinamba (a Tupian language) *bocan*,
rack.] — *buc-ca-neer'* *v.*

Bu-ceph-a-lus (byōō-sēf'ā-lās) *n.* Alexander the Great's war
horse.

Buch-an (būk'an, būkh'-), Sir John. 1st Baron Tweedsmuir.
1875–1940. Scottish writer and politician whose adventure
novels include *The Thirty-Nine Steps* (1915).

Bu-chan-an (byōō-kān'an, bā-), James. 1791–1868. The
15th President of the U.S. (1857–61).

Bu-cha-rest (būō'kə-rēst', byōō'-). The cap. of Romania, in
the SE part on a tributary of the Danube R.; founded in the
14th cent. Pop. 1,995,156.

Bu-chen-wald (būō'kən-wōld', -khən-wālt'). A village of cen-
tral Germany near Weimar; site of a Nazi concentration camp
during World War II.

Buch-ner (bōōk'nar, bōōkh'-), Eduard. 1860–1917. German
chemist who won a 1907 Nobel Prize.



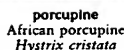
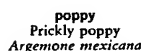
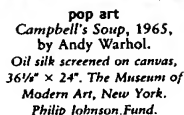
Brussels sprouts
Brassica oleracea
var. *gemmifera*



James Buchanan

ă pat	oi boy
ā pay	ou out
ār care	ōō took
ā father	ōō boot
ē pet	ū cut
ē be	ūr urge
ī ple	th thin
ī ple	th this
ir pler	hw which
ō pot	zh vision
ō toe	ā about
ō paw	item

Stress marks:
' (primary);
/ (secondary), as in
dictionary (dīk'shə-nēr'ē)



pop³ (póp) *Informal*. — *adj.* 1. Of or for the general public; popular or popularized: *pop culture*. 2. Of, relating to, or specializing in popular music: *a pop singer*. 3. Of or suggestive of pop art: *a pop style*. — *n.* 1. Popular music. 2. Pop art. **POP abbr.** Proof of purchase.

pop. abbr. 1. Popular. 2. Population.

pop art *n.* A form of art that depicts everyday life and employs techniques of commercial art and popular illustration.

pop·corn (póp/'kór'n) *n.* 1. a. A variety of corn, *Zea mays everta*, having hard kernels that burst to form white, irregularly shaped puffs when heated. b. The edible popped kernels of this variety of corn. 2. A small piece, as of polystyrene, used in quantity to protect items in shipping. [Contraction of *popped corn*.]

pope (póp) *n.* 1. Often **Pope**. *Rom. Cath. Ch.* The bishop of Rome and head of the Roman Catholic Church on earth. 2. *Eastern Orthodox Ch.* The patriarch of Alexandria. 3. The Coptic patriarch of Alexandria. 4. A person considered to have unquestioned authority. [ME < OE *pāpa* < LLat. < Lat., father (title of bishops) < Gk. *pappas*. See **papa**.]

Pope, Alexander. 1688–1744. English poet whose works include *The Dunciad* (1728).

Pope, John. 1822–92. Amer. Union general who was defeated at the Second Battle of Bull Run (1862).

pop·er·y (póp/'pə-rē) *n.* *Offensive*. The doctrines, practices, and rituals of the Roman Catholic Church.

pope's nose (póps) *n.* *Informal*. The tail of a cooked fowl.

pop·eyed (póp/'id') *adj.* 1. Having bulging eyes. 2. Amazed; astonished: *popeyed with wonder*.

pop fly *n.* *Baseball*. A short high fly ball.

pop·gun (póp/'gún') *n.* A toy gun that makes a popping noise.

pop·in·jay (póp/'in-jā') *n.* A vain talkative person. [ME, parrot < OFr. *papegai* < Sp. *papagayo* or OProv. *papagai*, both < Ar. *babgā*, *babagā* < Pers. *babbaghā*.]

pop·ish (póp/'ish) *adj.* *Offensive*. Of or relating to the Roman Catholic Church. — **pop·ish·ly** *adv.* — **pop·ish·ness** *n.*

pop·lar (póp/'lär) *n.* 1. a. Any of several fast-growing deciduous trees of the genus *Populus*, having unisexual flowers borne in catkins. b. The wood of these trees. 2. See **tulip tree**. [ME *popler* < OFr. *poplier* < *pouple* < Lat. *pōpulus*.]

Pop·lar Bluff (póp/'lär). A city of SE MO near the AR border. S of St. Louis. Pop. 16,996.

pop·lin (póp/'lin) *n.* A ribbed fabric of silk, rayon, wool, or cotton, used in making clothing and upholstery. [Obscure Fr. *papelaine*, perh. < Prov. *papalino*, fem. of *papalin*, *papal* (so called because it was first made at the papal town of Avignon) < Med.Lat. *pāpālis* < LLat. *pāpa*, *pope*. See **pope**.]

pop·lit·e·al (póp-'lit-'ē-əl, póp-'li-tē-'əl) *adj.* Of or relating to the hollow part of the leg between the knee joint. [< NLat. *popliteus* < Lat. *popples*, *poplit-*, ham of the knee.]

Pop·o·cā·tē·petl (póp-'pə-kāt-ə-'pēt'l, póp-'pō-kā-tē-'pēt'l). A volcano, 5,455.5 m (17,887 ft), of Mexico W of Puebla.

pop·o·ver (póp/'ō-vər) *n.* A very light hollow muffin made with eggs, milk, and flour.

pop·pa (páp/'pə) *n.* Var. of **papa**.

pop·per (póp/'ər) *n.* 1. One that pops. 2. A container or pan for making popcorn. 3. *Slang*. An ampoule of amyl nitrite or butyl nitrite used as a stimulant drug.

pop·pet (póp/'it) *n.* 1. A poppet valve. 2. *Naut.* a. A small wooden strip on a gunwale that forms or supports an oarlock. b. One of the beams of a launching cradle supporting a ship's hull. 3. *Chiefly British*. A darling. [ME *popet*, small child doll, puppet. See **puppet**.]

poppet valve *n.* An intake or exhaust valve, operated by springs and cams, that opens and closes by axial motion.

pop·ple¹ (póp/'əl) *intr.v.* -pled, -pling, -ples. To move in a tossing, bubbling, or rippling manner, as choppy water. — *n.* 1. Choppy water. 2. The motion or sound of boiling liquid. [ME *popplen*, prob. of MDu. orig.]

pop·ple² (póp/'əl) *n.* *Informal*. A poplar. [ME *popel* (perh. < OE *popul-*) < Lat. *pōpulus*.]

pop·py (póp/'ē) *n.*, *pl.* -ples. 1. Any of numerous plants of the genus *Papaver*, having nodding buds with four crumpled petals, showy red, orange, or white flowers, a milky juice, and capsules that dehisce through terminal pores. 2. Any of several similar or related plants, such as the California poppy. 3. An extract from poppy seedpods, used in medicine and narcotics. 4. *Color*. A vivid red to reddish orange. [ME *popoc* < OE *popig*, prob. alteration of VLat. **papāvum*, alteration of Lat. *papāver*.]

pop·py·cock (póp-'ē-kök') *n.* Senseless talk; nonsense. [Dial. *pappekak*: *pap*, *pap* (< MDu. *pappe*, perh. < Lat. *papa*, food) + *kak*, dung (< *kakken*, to defecate < MDu. *kacken* < Lat. *cacāre*; see **kakka**·*).]

Pop·si·cle (póp/'sī-kəl, -sīk/'əl). A trademark used for a colored, flavored ice confection with one or two flat sticks for a handle.

pop·top (póp/'tóp') *adj.* Having a tab that can be pulled up or off to make an opening in a container. — **pop·top**¹ *n.*

pop·u·lace (póp/'yū-lis) *n.* 1. The general public; the masses. 2. A population. [Fr. < Ital. *popolaccio*, rabble < *popolo*, the people < Lat. *pōpulus*. See **POPULAR.]**

pop·u·lar (pŏp'ya-lər) *adj.* 1. Widely liked or appreciated. 2. Liked by acquaintances; sought after for company. 3. Of, representing, or carried on by the people at large. 4. Fit for, adapted to, or reflecting the taste of the people at large. 5. Accepted by or prevalent among the people in general. 6. Suited to or within the means of ordinary people. 7. Originating among the people: *popular legend*. [ME *populer* < OFr. *populaire* < Lat. *populāris*, of the people < *populus*, the people, of Etruscan orig.] — **pop·u·lar·ly** *adv.*

popular front *n.* A political coalition of leftist parties against fascism, such as that in European countries during the 1930's.

pop·u·lar·i·ty (pŏp'ya-lər'i-tē) *n.* The quality or state of being popular, esp. of being widely admired or sought after.

pop·u·lar·ize (pŏp'ya-lə-rīz') *tr.v.* -ized, -iz·ing, -iz·es. 1. To make popular: *popularized the hairstyle*. 2. To present in a widely understandable or acceptable form. — **pop·u·lar·i·za·tion** (-lŏr-i-zā'shən) *n.* — **pop·u·lar·iz·er** *n.*

pop·u·late (pŏp'ya-lāt') *tr.v.* -lated, -lat·ing, -lates. 1. To supply with inhabitants, as by colonization; people. 2. To live in; inhabit: *creatures that populate the ocean*. [Med.Lat. *populāre*, *populāt-* < Lat. *populus*, the people. See **POPULUS**.]

pop·u·la·tion (pŏp'ya-lā'shən) *n.* 1.a. All of the people inhabiting a specified area. 2. The total number of such people. 3. The total number of inhabitants constituting a particular race, class, or group in a specified area. 3. The act or process of furnishing with inhabitants. 4. *Ecol.* All the organisms that constitute a specific group or occur in a specified habitat. 5. *Statistics.* The set of individuals, items, or data from which a statistical sample is taken.

population explosion *n.* The geometric expansion of a biological population, esp. the unchecked growth in human population resulting from a decrease in infant mortality and an increase in longevity.

pop·u·lism (pŏp'ya-līz'm) *n.* 1.a. A political philosophy supporting the rights and power of the people in their struggle against the elite. b. The movement organized around this philosophy. 2. **Populism.** The philosophy of the Populist Party.

pop·u·list (pŏp'ya-list) *n.* 1. A supporter of the rights and power of the people. 2. **Populist.** A supporter of the Populist Party. — *adj.* 1. Of or characteristic of populism or its advocates. 2. **Populist.** Of or relating to the Populist Party.

Populist Party *n.* A U.S. political party in the 1890's that advocated free silver and a graduated federal income tax.

pop·u·lous (pŏp'ya-ləs) *adj.* Containing many people or inhabitants. [ME < Lat. *populōsus* < *populus*, the people. See **POPULUS**.] — **pop·u·lous·ly** *adv.* — **pop·u·lous·ness** *n.*

pop·up (pŏp'ʊp') *adj.* Rising to form a three-dimensional structure when a page is opened. — *n.* 1. A device or an illustration that pops up. 2. *Baseball.* See **POP FLY**.

por·bea·gle (pŏr'bē'gəl) *n.* A mackerel shark (*Lamna nasus*) of temperate Atlantic waters. [Cornish *porbugel*.]

por·ce·lain (pŏr'sə-lin, pŏr'-, pŏrs'lin, pŏrs'-) *n.* 1. A hard white translucent ceramic made by firing a pure clay and then glazing it with fusible materials; china. 2. An object made of porcelain. [Fr. *porcelaine*, cowry shell, porcelain < OFr. < Italt. *porcellana* < fem. of *porcellano*, of a young sow (from the shell's resemblance to a pig's back) < *porcella*, young sow, dim. of *porca*, sow < Lat., fem. of *porcus*, pig. See **porko·***.] — **por·ce·la·ne·ous** (-lā'nē-əs) *adj.*

porcelain enamel *n.* A glass coating fired on metal.

porcelain flower *n.* See **HOYA**.

porch (pŏrch, pŏrch) *n.* 1. A covered platform, usu. having a separate roof, at an entrance to a building. 2. An open or enclosed gallery or room attached to the outside of a building; a veranda. 3. *Obsolete.* A portico or covered walk. [ME *porche* < OFr. < Lat. *porticus*, portico < *porta*, gate. See **per·2**.]

por·cine (pŏr'sin') *adj.* Of or resembling swine or a pig. [ME < OFr. *porcin* < Lat. *porcinus* < *porcus*, pig. See **porko·***.]

por·cu·pine (pŏr'kyŏ-pin') *n.* Any of various rodents of the Old World family Hystricidae or the New World family Erethizontidae, having long sharp erectile quills interspersed with coarse hair. [ME *porke despine* < OFr. *porc espin* : Lat. *porcus*, pig; see **porko·*** + Lat. *spina*, thorn, spine.]

porcupine fish *n.* Any of various thorny marine fishes of the family Diodontidae, having strong spines on the body.

Por·cu·pine River (pŏr'kyŏ-pin') *n.* A river rising in NW Yukon Terr., Canada, and flowing c. 721 km (448 mi) to the Yukon R. in NE AK.

pore¹ (pŏr, pŏr) *intr.v.* **pored**, **por·ing**, **pores**. 1. To read or study carefully and attentively: *pored over the ads*. 2. To gaze intently. 3. To meditate deeply; ponder. [ME *pouren*.]

pore² (pŏr, pŏr) *n.* 1. A minute opening in tissue, as in the skin of an animal, serving as an outlet for perspiration, or in a plant leaf or stem, serving as a means of absorption and transpiration. 2. A space in rock, soil, or unconsolidated sediment that is not occupied by mineral matter and allows the passage or absorption of fluids: *pores of a rock*. [ME < OFr. < LLat. *porus*, passage < Gk. *poros*. See **per·2**.]

pore fungus *n.* Any of various basidiomycetous fungi of the families Boletaceae and Polyporaceae, whose basidia line the inside of tubes that lead to exterior pores.

[illegible]

porgy
portend



porcupine fish
Diodon hystrix



porringer
c. 1730 silver porringer by
Simeon Soumaine
(1685-1750)



portcullis

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Stress marks:
' (primary);
' (secondary), as in
dictionary (dīk'shə-nēr'ē)

por·gy (pôr'gē) *n.*, *pl.* **por·gy** or **-gies**. 1. Any of various deep-bodied marine food fishes of the family Sparidae, esp. the common species *Pagrus pagrus* of Mediterranean and Atlantic waters. 2. Any of several fishes similar to the porgy. [Alteration of Sp. and Port. *pargo*, both alteration of Lat. *phager*, akin of fish < Gk. *phagros*, sea bream.]
Por·ri (pôr'ē) A city of SW Finland on the Gulf of Bothnia NW of Helsinki; chartered 1564. Pop. 78,933.
por·rif·er·an (pə-rif'ər-ən) *n.* Any of various members of the phylum Porifera constituting the sponges. [*< NLat. Porifera*, phylum name: Lat. *porus*, passage; see **porē** + Lat. *-fera*, neut. pl. of *-fer*, -fer.] — **por·rif·er·al**, **por·rif·er·an** *adj.*
por·rif·er·ous (pə-rif'ər-əs) *adj.* 1. Having pores. 2. Of or relating to the poriferans.
por·k (pōrk, pōrk) *n.* 1. The flesh of a pig or hog used as food. 2. *Slang.* Government funds, appointments, or benefits that are dispensed or enacted by politicians to gain favor with their constituents. [ME < OFr. *porc*, pig < Lat. *porcus*. See **porco**.]
por·k·bar·rel *n.* *Slang.* A government project or appropriation that yields jobs or other benefits to a specific locale and patronage opportunities to its political representative.
por·k·belly *n.* A side of fresh pork.
por·k·er (pōrk'kər, pōrk'ē) *n.* A fattened young pig.
por·k·pie (pōrk'pī, pōrk'ē) *n.* A man's hat having a low flat crown and a flexible brim.
por·ky (pōrk'kē, pōrk'ē) *n.*, *pl.* **-kies**. *Informal.* A porcupine.
por·n (pōrn) also **por·no** (pōrn'ō) *Slang.* — *n.* Pornography. — *adj.* Pornographic. — **por·n'y** *adj.*
por·nog·ra·phy (pōrn-ŏg'ra-fē) *n.* 1. Sexually explicit material that sometimes equates sex with power and violence. 2. The presentation or production of this material. [Fr. *pornographie* < *pornographie*, pornographer < LGk. *pornographos*, writing about prostitutes: *pornē*, prostitute; see **per** + *graphein*, to write; see **-graphy**.] — **por·nog·ra·pher** *n.* — **por·no·graph·ic** (pōrn'ŏ-grāf'ik) *adj.* — **por·no·graph·ic·al·ly** *adv.*
por·ro·s·i·ty (pə-rōs'ē-tē, pō-) *n.*, *pl.* **-ties**. 1. The state or property of being porous. 2. A structure or part that is porous. 3. The ratio of the volume of all the pores in a material to the volume of the whole. [ME *porositē* < OFr. < Med.Lat. *porositās* < *porosus*, porous. See **porous**.]
por·rous (pōr'əs, pōr'ē) *adj.* 1. Full of or having pores. 2. Admitting the passage of gas or liquid through pores or interstices. 3. Easily crossed or penetrated. [ME < OFr. *poroux*, *poros* < Med.Lat. *porosus* < Lat. *porus*, passage. See **porē**.] — **por·rous·ly** *adv.* — **por·rous·ness** *n.*
por·phyr·i·a (pōr-fir'ē-ə) *n.* Any of several disorders of porphyrin metabolism, usu. hereditary, characterized by the presence of large amounts of porphyrins in the blood and urine. [NLat.: *porphyrin* < *-ia*.] — **por·phyr·ic** *adj.*
por·phyr·in (pōr'fə-rin) *n.* Any of various nitrogen-containing organic compounds, derived from pyrrole and occurring in protoplasm. [Gk. *porphura*, purple; see **PURPLE** + *-in*.]
por·phyr·it·ic (pōr'fə-rīt'ik) also **por·phyr·it·ic·al** (-ī-kəl) *adj.* 1. Containing relatively large isolated crystals in a mass of fine texture. 2. Of or containing porphyry.
por·phyr·oid (pōr'fə-rōid') *n.* Metamorphic rock having porphyritic texture.
por·phyr·op·sin (pōr'fə-rōp'sin) *n.* A purple pigment similar to rhodopsin, found in the rods of the retinas of freshwater fishes and certain frogs. [Gk. *porphura*, purple + *opsin*.]
por·phyr·y (pōr'fə-rē) *n.*, *pl.* **-ries**. Igneous rock having porphyritic texture. [ME *porphiri*, *porfure* < OFr. *porfire* < Ital. *porfiro* < Med.Lat. *porphyrium* < Lat. *porphyritēs* < Gk. *porphurītēs* < *porphura*, purple (< its color). See **PURPLE**.]
por·poise (pōr'pōs) *n.*, *pl.* **porpoise** or **-poises**. 1. Any of several gregarious toothed whales of the genus *Phocaena* and related genera of oceanic waters, having a blunt snout and a triangular dorsal fin. 2. Any of several related mammals, such as the dolphin. [ME *porpeis* < OFr. (prob. transl. of a Gmc. compound meaning sea pig): *porc*, pig (< Lat. *porcus*; see **porco**) + *peis*, fish (< Lat. *piscis*).]
por·rect (pə-rēkt', pō-) *adj.* Zool. Stretched out or forth; extended, esp. forward: *porrect* mandibles. [Lat. *porrēctus*, p.part. of *porrigere*, to stretch out: *por-*, forward, out; see **per** + *regere*, to direct, rule; see **DIRECT**.]
por·ridge (pōr'rij, pōr'ē) *n.* A soft food made by boiling oatmeal or another meal in water or milk. [Alteration of *PORTAGE* (influenced by obsolete *porray*, vegetable soup, ult. < Lat. *porrum*).] — **por·ridg·y** *adj.*
por·rin·ger (pōr'in-jər, pōr'ē) *n.* A shallow cup or bowl with a handle. [ME, alteration of *potinger*, *potager* < OFr. *potager* < *potage*, soup. See **POTAGE**.]
port (pōrt, pōrt) *n.* 1. a. A place on a waterway with facilities for loading and unloading ships. b. A city or town on a waterway with such facilities. c. The waterfront district of a city. 2. A place along a coast that gives ships and boats protection; a harbor. 3. A port of entry. [ME < OE < Lat. *portus*. See **per**.]
port (pōrt, pōrt) *Naut.* — *n.* The left-hand side of a ship or aircraft facing forward. — *adj.* Of, relating to, or on the port

side. — *tr.* & *intr.v.* **port·ed**, **port·ing**, **ports**. To turn (a craft) or make a shift to the port side. [Prob. < *port side* < **PORT**.]
port (pōrt, pōrt) *n.* 1. *Naut.* a. A porthole. b. *Archaic.* A cover for a porthole. 2. An opening, as in a cylinder or valve face, for the passage of steam or fluid. 3. A hole in an armored vehicle or a fortified structure for viewing or for firing weapons. 4. *Comp. Sci.* a. An entrance to or exit for a data network. b. A connection point for a peripheral device. 5. *Scots.* A gateway or portal, as to a town. [ME, gate, porthole < OFr. *porte*, gate < Lat. *porta*. See **per**.]
port (pōrt, pōrt) *n.* A rich sweet fortified wine. [After Oporto.]
port (pōrt, pōrt) *tr.v.* **port·ed**, **port·ing**, **ports**. To carry (a weapon) diagonally across the body, with the muzzle or blade near the left shoulder. — *n.* 1. The position of a weapon when ported. 2. The manner in which one carries oneself; bearing. [Fr. *porter*, to carry < OFr. < Lat. *portāre*. See **per**.]
Port, *abbr.* Portugal; Portuguese.
port·a·ble (pōr'ta-bəl, pōr't-) *adj.* 1. Carried or moved with ease. 2. *Obsolete.* Bearable; endurable. — *n.* Something portable, such as a light typewriter. [ME < OFr. < LLat. *portabilis* < Lat. *portāre*, to carry. See **per**.] — **port·a·bil·i·ty**, **port·a·ble·ness** *n.* — **port·a·bly** *adv.*
port·age (pōr'tij, pōr't-, pōr-tāzh') *n.* 1. a. The act or an instance of carrying. b. A charge for carrying. 2. *Naut.* a. The carrying of boats and supplies overland between two waterways or around an obstacle to navigation. b. A track or route used for such carrying. — *tr.* & *intr.v.* **-aged**, **-ag·ing**, **-ag·es**. *Naut.* To transport or travel by portage. [ME < OFr. < *porter*, to carry < Lat. *portāre*. See **per**.]
Port·age (pōr'tij, pōr't-) 1. A city of NW Ind., a suburb of Gary on Lake Michigan. Pop. 29,060. 2. A city of SW MI S of Kalamazoo. Pop. 41,042.
por·tal (pōr'tl, pōr't-) *n.* 1. A doorway, an entrance, or a gate, esp. a large and imposing one. 2. An entrance or a means of entrance. 3. The portal vein. — *adj.* 1. Of or relating to the portal vein or the portal system. 2. Of or relating to a point of entrance to an organ, esp. the transverse fissure of the liver, through which the blood vessels enter. [ME < OFr. < Med. Lat. *portāle*, city gate < neut. of *portālis*, of a gate < Lat. *porta*, gate. See **per**.] *N.*, sense 3 and *adj.* < NLat. *porta* (*hepatis*), transverse fissure (of the liver) < Lat., gate.]
Port Al·ber·ni (āl-būr'nē) A city of SW British Columbia, Canada, on SE-central Vancouver I. Pop. 19,892.
portal system *n.* A system of blood vessels that begins and ends in capillaries.
por·tal·to·por·tal (pōr'tl-tō-pōr'tl, pōr'tl-tō-pōr'tl) *adj.* Of or based on the time a worker spends on the employer's property, calculated from arrival to departure.
portal vein *n.* A vein that conducts blood from the digestive organs, spleen, pancreas, and gallbladder to the liver.
por·ta·men·to (pōr'tə-mēn'tō, pōr't-) *n.*, *pl.* **-ti** (-tē) or **-tos**. *Mus.* A smooth uninterrupted glide in passing from one tone to another, esp. with the voice or a bowed stringed instrument. [Ital. < *portare*, to carry < Lat. *portāre*. See **per**.]
Port An·ge·les (ān'jə-lis) A city of NW WA S of Victoria, British Columbia, Canada. Pop. 17,710.
Port Ar·thur (ār'thur) A city of extreme SE TX on Sabine Lake near the LA border. Pop. 58,724.
por·ta·tive (pōr'tə-tiv, pōr't-) *adj.* 1. Portable. 2. Capable of or used in carrying. [ME *portatif* < OFr. < Lat. *portāre*, to carry. See **per**.]
Port-au-Prince (pōrt'ō-prīns', pōrt-, pōr'tō-prāns') The cap. of Haiti, in the SW part on an arm of the Caribbean; founded by French sugar planters in 1749. Pop. 684,284.
Port Ches·ter (chēs'tər) A village of SE NY on Long Island Sound near the CT border. Pop. 24,728.
Port Col·borne (kōl'būrn') A city of SE Ontario, Canada, on Lake Erie W of Buffalo NY. Pop. 19,225.
Port Co·quit·lam (kō-kwīt'ləm) A city of SW British Columbia, Canada, on the Fraser R. E of Vancouver. Pop. 27,535.
port·cul·lis (pōrt-kūl'is, pōrt-) *n.* A grating of iron or wooden bars or slats, suspended in the gateway of a fortified place and lowered to block passage. [ME *port-colice* < OFr. *porte co-leice*, sliding gate: *porte*, gate (< Lat. *porta*; see **per**) + *co-leice*, fem. of *coleis*, sliding (< VLat. **cōlāticius* < Lat. *cōlātus*, p.part. of *cōlāre*, to filter, strain < *cōlum*, sieve).]
Port du Sa·lut (pōrt' də sā-lōō', pōrt', pōr' dū sā-lū') *n.* Var. of **Port Salut**.
Porte (pōrt, pōrt) *n.* The government of the Ottoman Empire. [Fr., short for *la Sublime Porte*, the High Gate < OFr. *porte*, gate. See **PORT**.]
porte·co·chère or **porte·co·chere** (pōrt'kō-shār', pōrt'-) *n.* 1. A carriage entrance leading through a building or wall into an enclosed courtyard. 2. An enclosure over a driveway at the entrance of a building to provide shelter. [Fr. *porte cochère*: *porte*, door + *cochère*, for coaches.]
Port E·liz·a·beth (ē-liz'ə-bəth) A city of SE South Africa on an inlet of the Indian Ocean. Pop. 281,600.
por·tend (pōr-tēnd', pōr-) *tr.v.* **-tend·ed**, **-tend·ing**, **-tends**.

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